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ABSTRACT

Within the context of current discussions on improving urban public education, this report provides an analysis of the magnet school as a model for educational quality and excellence and gives an objective assessment of its potential as a method of improving urban education. A comparative case study methodology combined the collection of quantitative and qualitative data from 15 school districts. Major findings were that magnet schools (1) can and do provide high quality education in terms of instructional quality, curriculum, student-teacher interaction, student learning opportunities, and resource use; (2) provide high quality education without using highly selective methods of student admission; (3) need strong district leadership and innovative and resourceful school leadership; (4) have a significant positive impact on district-wide segregation under certain conditions, including strong policy commitment and effective implementation of a district-wide plan; (5) have slightly higher total costs per student than nonmagnet schools but increase the quality of education and racial integration; and (6) benefit from active community involvement in program planning, design, instruction, and support. The educational issues of the 1980's and the evolution of the magnet school in American education are summarized in this report. Following a presentation of the study's findings, the report outlines a set of 10 key steps in developing a successful magnet program. Finally, policy options applicable at the federal and/or state level and at the local level are discussed. (CMG)

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SURVEY OF MAGNET SCHOOLS
ANALYZING A MODEL FOR QUALITY INTEGRATED EDUCATION

EXECUTIVE SUMMARY

UD 023320

Final Report of a National Study
for the
U.S. Department of Education
Office of Planning, Budget and Evaluation

Prepared by
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SURVEY OF MAGNET SCHOOLS

ANALYZING A MODEL FOR QUALITY INTEGRATED EDUCATION

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September 1983

EXECUTIVE SUMMARY

Final Report of a National Study for
U.S. Department of Education
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The findings and conclusions in this report are those of the study contractor and do not necessarily reflect the views or policies of the U.S. Department of Education

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SURVEY OF MAGNET SCHOOLS

Analyzing a Model for Quality
Integrated Education

EXECUTIVE SUMMARY

James H. Lowry & Associates is pleased to present the U.S. Department of Education, Office of Planning, Budget and Evaluation, with the final report of the Survey of Magnet Schools: Analyzing a Model for Quality Integrated Education. The report is based on a two-year study of the status and effectiveness of magnet schools, a concept that has grown rapidly in urban public education due to its appeal as an educational innovation through a theme-based curriculum and as a method of voluntary desegregation.

Although much has been written on the topic of magnet schools, this is the first national study of the effects and degree of success of this model across a representative sample of urban districts that operate magnet programs. The Department of Education requested that the study address questions concerning the impact of magnet schools on the quality of education and on desegregation, as well as analyze the process by which magnet schools are effectively developed and identify the factors that lead to a successful program.

INTRODUCTION

The magnet school concept has developed and expanded in American public education over the last decade to now include over 1,000

schools in more than 130 of the largest urban school districts. Many of the administrators, school board members, teachers and parents in these districts found the magnet school to be an attractive model for improving education quality and offering an alternate approach to desegregation. Some urban districts have developed highly successful magnet programs, while in others questions have been raised concerning the actual educational and desegregative benefits and cost-effectiveness of magnet schools.

During the 1982-83 school year, our research team conducted the survey of magnet schools through site visits to a sample of 15 school districts that are representative of the nation's urban districts operating magnet programs. To select the survey sample, we identified all of the urban districts with magnet programs and determined the number of magnet schools by grade level. Four criteria were used to define a magnet school for this study:

1. A distinctive school curriculum based on a special theme or method of instruction
2. A unique district role and purpose for voluntary desegregation
3. Voluntary choice of the school by student and parent
4. Open access to school enrollment beyond a regular attendance zone.

Using a comparative case study methodology, we collected quantified student and cost data; conducted interviews with local administrators, principals, board members, teachers, parents and

community representatives; and observed magnet school operations in the sample districts. The accumulated case data provided for multivariate statistical analyses of magnet school education quality, desegregation effects, and student outcomes, as well as qualitative analyses of district- and school-level processes related to magnet school design, development, and instruction.

MAJOR STUDY FINDINGS AND POLICY OPTIONS

Our analysis of the effectiveness of magnet schools as a model for education quality and desegregation innovation was directed toward answering five main research questions. We have outlined the major study findings related to each of these questions:

1. How effective are magnet schools in improving education quality in urban school districts?

   - Magnet schools can and do provide high quality education in urban school districts. One third of the magnet schools in our study have high education quality as measured by ratings of instructional quality, curriculum, student-teacher interaction, student learning opportunities, and use of resources.

   - A majority of the other magnets in the study exhibited some elements of quality education processes. Virtually all offer important educational options and choices within their districts. However, there was wide variation in education quality across the total sample of magnet schools.

   - High education quality in a magnet school is strongly related to three factors: 1) an innovative, entrepreneurial principal; 2) a high degree of coherence of the theme, curriculum, teaching methods and staff to form a strong program identity; and 3) special treatment by district administration with rules, conventions and procedures.

   - Quality education in magnet schools does not require highly selective methods of student admission: high quality magnets serve average as well as high ability students.

- Eighty (80) percent of the 32 magnet schools in our study that reported achievement test scores have higher average scores than their district averages for the grade level. The magnets with the highest averages (top 15 percent) used more selective methods of admitting students.

2. What effect do magnet schools have on desegregation through the method of voluntary enrollment?

- Magnet schools have a significant positive impact on districtwide desegregation under certain district conditions, including strong policy commitment and effective implementation of a districtwide plan.

- Magnet schools helped reduce real and potential community conflict concerning desegregation in over half of the study districts.

- Positive racial integration is advanced within magnet schools: magnets with higher education quality show the greatest progress in developing an environment with positive interracial interaction and learning.

3. What is the importance of district and school leadership in producing effective magnet schools and programs?

- Magnet schools will not succeed unless there is strong district leadership including school board commitment to a magnet schools policy and involvement of the superintendent and key district administrators in implementing a district magnet plan. Educationally effective magnets continue to receive strong district leadership support after program implementation.

- Principals of effective magnet schools exhibit strong qualities of an educational "entrepreneur": a high degree of innovativeness in development of curriculum, resources and community involvement, as well as recruiting and motivating teachers and students who are committed to the magnet concept and theme.

4. How do the costs of magnet schools compare with costs for nonmagnet schools?

- The total cost per student in magnet schools is slightly

higher than for nonmagnet schools, but the quality of education and racial integration in magnet schools are increased by the extra spending.

- The average total cost per student in magnet schools was approximately $200 more than nonmagnets in 1980-81, but the cost declined to only $59 more on average in 1981-82.

- The cost items accounting for slightly higher magnet costs are average salary per classroom teacher for secondary magnets and pupil transportation for elementary and secondary magnets.

- Magnet schools with specific, single themes, such as arts or science, have lower costs than combination magnets with two or more themes in a school.

5. What part does community support and involvement have in developing effective magnet schools?

- Effective magnet schools generally have active community involvement in program planning, design, instruction, and support.

- Community participation in the initial planning and strategy for a magnet program tends to decrease opposition and lead to higher involvement during program implementation.

- Effective magnet schools can help increase community confidence in public education.

Policy Options

Based on the study findings, the research team has outlined several policy options that federal or state governments can consider in relation to the future of magnet school programs:

1. A program of grants to urban school districts that encourages establishing, developing and maintaining magnet schools as models of educational excellence and integration.

2. Information dissemination and assistance with magnet design and implementation would be an appropriate method of federal or state support for magnet schools and could be effective in assisting urban districts to develop high quality magnet education. Assistance would be particularly valuable for magnet schoools at the secondary level.

3. To provide local flexibility in design of programs and used of funds, a federal or state magnet program should not be restrictive with unnecessary regulations.

4. To effectively contribute to urban education, federal or state support for magnet schools should be linked to district efforts to desegregate their schools.

THE MAGNET SCHOOL AND THE EDUCATION ISSUES OF THE 1980'S

This national study of magnet schools comes at an important point in the growth and development of the magnet school concept. Even more importantly, the study is being completed at a time when education in American public schools has become a major national issue. The Secretary of Education's National Commission on Excellence in Education has provided impetus to reexamination of our commitment to quality public education and consideration of approaches to reform of education curricula, methods and support.

There are five central issues in the current discussion of the problems of public education that parallel several of the objectives of this study of magnet schools:

- Identifying models of educational excellence
- Improving education quality in core academic subjects
- Advancing equal educational opportunity
- Offering choice and diversity in public education
- Regaining the public's confidence in their schools.

1. Models of Educational Excellence

One of the major recommendations of the National Commission is to encourage and develop educational excellence in our schools:

> "We define 'excellence' to mean several related things. At the level of the individual learner it means performing on the boundary of individual ability in ways that test and push back personal limits in school and in the workplace. Excellence characterizes a school or college that sets high expectations and goals for all learners, then tries in every way possible to help students reach them." (1983)

The magnet school offers school districts a method of developing opportunities for excellence in teaching and learning based on the idea of a theme-based curriculum that voluntarily attracts students through their interests.

2. Improving Education Quality in Core Academic Subjects

A second major recommendation of the National Commission on Excellence, as well as the Task Force on Education for Economic Growth (1983), is that school districts improve and expand course offerings in core academic subjects at the high school level.

The trend toward more course electives and nonacademic courses in high schools reduces time and incentive for basic and advanced courses in core areas. It is also well known by educators that many students devote a large part of their energy, time and attention to extracurricular activities with the effect that academic studies take secondary importance. The magnet schools show

strong potential for organizing and directing the attention of secondary education toward the academic curriculum. The magnet school can also be a means of renewing the interests and motivation of teachers by organizing their efforts around a common academic goal and developing inter-disciplinary curriculum planning, writing, and quality improvements.

3. Equal Educational Opportunity

The magnet school concept was developed as a means of ensuring equal opportunity through a racially/ethnically mixed student body. Magnet schools offer a model of an alternative voluntary method for desegregation. By enrolling students according to their interests in a curricular theme, magnets can voluntarily bring together students from different racial/ethnic groups and different levels of academic ability.

4. Choice and Diversity in Public Education

A fourth issue is the extent to which school districts should offer diversity in methods of instruction and choices for parents and students within the framework of the district curriculum. The old concept of the "alternative school" which served students who had dropped out or were asked to leave "regular schools" has given way to a wide range of innovations within the regular system, e.g. open classroom, traditional or basic skills education, education centers, computer-based education, experience-based career education, and individualized instruction. The

magnet school provides a model for choice and diversity. A magnet typically emphasizes core academic subjects, but offers a different educational approach or method through a theme-based curriculum and voluntary enrollment by student and parent.

5. Renewing Confidence in Public Schools

A fifth issue that is central to many of the recommendations of the National Commission, and several of the other recent studies on ways to improve public education,* is that school districts need to regain the confidence of parents and the community.

By voluntary enrollment, and by the public attention that magnet schools draw, the concept has the potential to significantly help a district in improving its image within the community and rebuilding the reputation of the public schools. A magnet school program may be a catalyst for increasing community interest in quality education or serve as part of a larger reform strategy.

Relevance of the Magnet Schools Study

Since its inception in 1981, the potential importance and usefulness of the findings of the magnet school study have increased as more Americans have recognized the serious problems that confront

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*Other recent national studies include: the Ford Foundation study of Effective Comprehensive High Schools; the Carnegie Foundation study on the American High School and John Goodlad's eight year study of public education in thirteen school districts across the country.

our nation's schools. The attention focused on the issues raised by the National Commission has aided educators by increasing serious consideration of their proposals for reform and increased support for education. Thus, within the context of the current discussions on improving public education, the magnet school study provides analysis of a model for educational quality and excellence as it has been operating in some urban districts, and objective assessment of its potential as a method of improving urban education in more districts and schools.

EVOLUTION OF THE MAGNET SCHOOL IN AMERICAN EDUCATION

The first magnet schools were developed in large urban districts that sought a means of reducing racial isolation in public school through voluntary means and as an alternative to mandatory assignment. The models for magnet school curricula were based on well-known specialty schools that had offered advanced programs to selected students for many years, such as Bronx School of Science, Boston Latin School and Lane Tech in Chicago. Themes for the original magnet schools developed in the late 1960's and early 70's reflected the speciality-school themes of science, mathematics and performing arts, with the major difference that magnets emphasized voluntary choice by interest rather than selection by testing.

With the growth of interest in magnet schools, particularly among northern districts in the process of desegregating, a wider

range of types of magnet themes were developed which reflected other kinds of educational innovations in local districts: open school, alternative school, career exploration, and traditional schools, as well as other curricular themes such as health science, foreign languages, humanities, business management and computer science. The basic idea of developing magnet themes was that a district would determine the interests of students and parents in a special theme program and develop theme-based curricula in schools that would attract a racially heterogeneous mix of students. The concept was viewed as having great potential for solving several prevalent problems of urban school districts.

The entry of the federal government into support of magnet school innovations in the mid-1970's provided a major boost to the growth and expansion of the concept. The U.S. Congress passed an amendment to the Emergency School Aid Act (ESAA) in 1976 that authorized grants to support planning and implementing magnet schools for districts in the process of desegregating.

Federal support for magnet schools had two major effects on the growing movement of magnet schools. First, the magnet school concept became closely identified with desegregation. The program regulations limited eligibility to districts that had a magnet schools program plan that would reduce overall racial isolation in the district by a minimum of five percent. Additionally, magnet funding was often viewed as part of the general federal support

for desegregation under ESAA. The ESAA magnet grants focused only minor attention on education objectives for magnet schools.

The second effect of the ESAA magnet grants was to increase the interest and attention of urban districts toward magnet schools. A number of districts that had received federal funding, and others that had developed magnet programs with local funds, formed an informal association to share magnet designs and strategies. More districts gradually learned of the programs that had been successfully developed, e.g. Dallas, Cincinnati and San Diego, and the movement expanded. In the first year of ESAA magnet funding in 1976, only 14 districts applied, but by 1980 over 100 district applications were received by the Department of Education and 65 programs were funded at a total of approximately $30 million per year.

Although the most attention at the national level was devoted to magnet schools' role in offering voluntary desegregation options to mandatory assignment, or "forced busing," interest in magnet schools actually developed and grew mainly at the local district level. In addition to interest in voluntary desegregation options, several other trends in public education developing since the 1960's increased the push for magnet schools from parents, teachers and administrators:

1. Growth in interest in educational options and diversity, including diversity in curriculum teaching methods and school design;

2. Renewed involvement of parents and community leaders in decisions related to public education and concern with the quality of education;

3. Greater attention on the outcomes from public education, including more career education and preparation for decisions on further education or training.

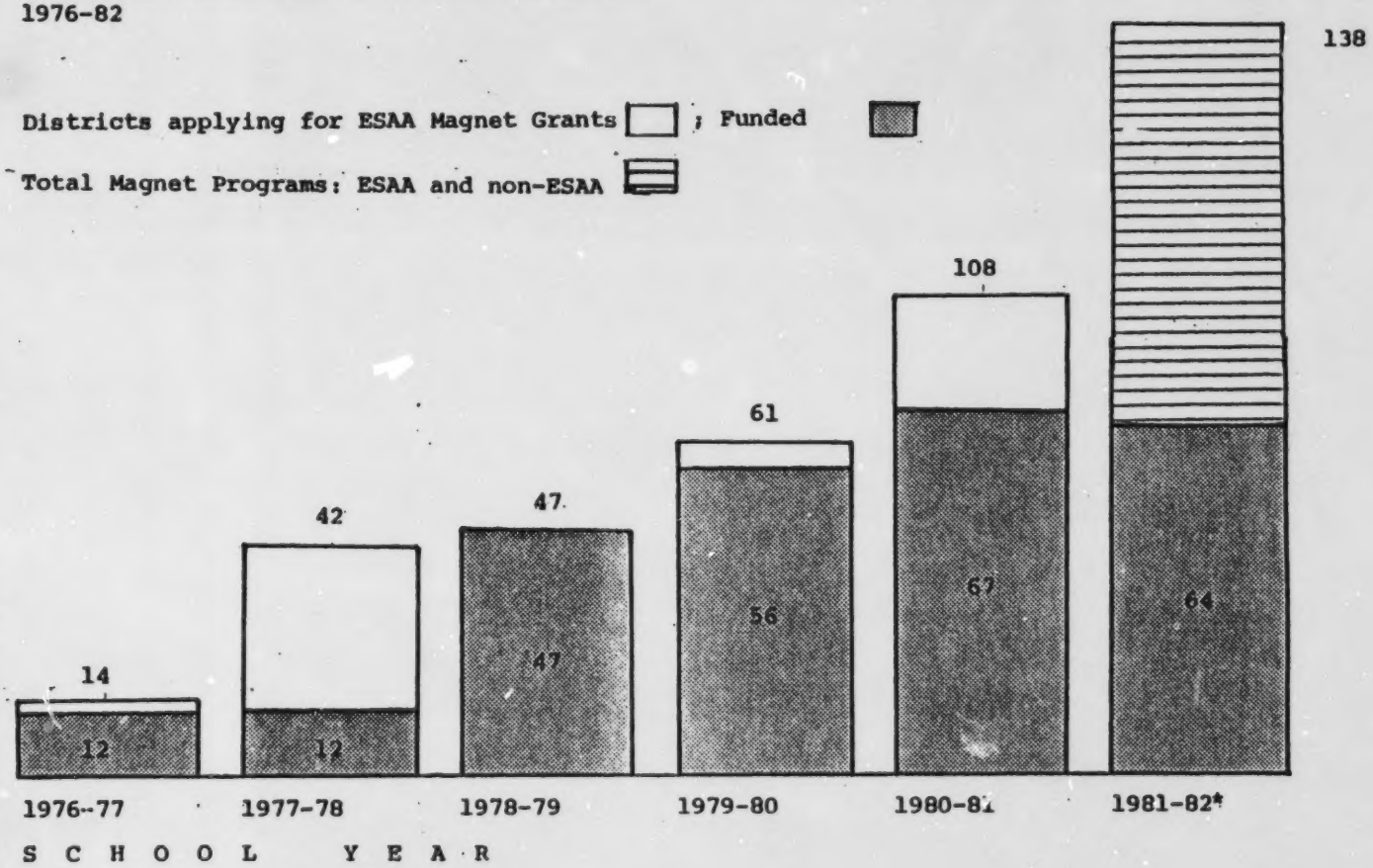
By the early 1980's, the number of districts that had implemented magnet schools had grown far beyond the federal role in support of programs (see Table 1). The concept had attained its own popularity due to the combination of urban school districts' needs and the interests of parents, students and communities in education innovation.

The data we collected on the population of magnet schools nationwide, shown in Table 2, demonstrate that more districts have now developed magnet schools without federal support (74) than received ESAA magnet grants the last year of funding (64 in 1981-82). The data also demonstrate that magnet schools are mainly found in large urban districts: 91 of the 275 districts with over 20,000 students have developed magnet school programs.

It is apparent that the development of magnet schools has spread widely across the country. The absolute number of districts with magnets is greatest in the Northeast, Midwest and West regions, but the proportion of urban districts with magnet schools is highest in the Southeast. Table 2 also shows that the size of magnet school programs varies widely between districts, partly in proportion to the district size.

Table 1

GROWTH OF MAGNET SCHOOLS IN URBAN EDUCATION
1976-82



*138 districts with Magnet School programs (ESAA and non-ESAA). Based on a survey of all school districts having over 20,000 enrollment (275) and all other districts ever applying for ESAA Magnet Grants (75).

TABLE 2

MAGNET SCHOOLS IN UNITED STATES URBAN PUBLIC SCHOOL DISTIRCTS (1981-82)

Total number of districts with magnet schools	=	138
Total number of magnet schools	=	1,019
Number of ESAA-funded districts with magnets	=	64
Number of non-ESAA-funded districts with magnets	=	74
Number of magnet districts with enrollment of more than 20,000	=	91
Number of magnet districts with enrollment of fewer than 20,000	=	47

Regional Distribution of Urban Districts With Magnet Schools

	Number of Districts	Percent of Urban Districts
Southeast	24	32
Northeast	41	11
Southwest	14	13
Midwest	30	20
West	29	24
TOTAL	138	

Average Proportion of Students in a District Enrolled in Magnet Schools

	Mean	Range
Total district enrollment (N = 138 School Districts)	54,882	3,000 to 925,000
Total magnet schools enrollment	3,193	125 to 25,013
Percentage of total district enrollment	5.2%	1% to 37%
Percentage of total among districts with 3 or more magnet schools (N = 94 districts)	13.7%	3% to 37%
Total magnet enrollment among districts with 3 or more magnet schools (N = 94 districts)	6,350	550 to 25,013

SCOPE AND OBJECTIVES OF THE STUDY

Based on the widely varied local response to magnet schools, including many reports of program success and failure in both the mass media and the education research literature, as well as the federal support for magnet schools in the ESAA program, the Department of Education funded this national study in 1981 and awarded a contract to James H. Lowry & Associates, and a subcontractor, Abt Associates. The Department was interested in the study addressing the educational and desegregation impact of magnet schools as well as analyzing the process by which magnet schools are effectively developed in urban school districts. Specifically, they outlined four basic questions for which definitive answers were desired:

- How effective are magnet schools in providing quality education as measured by critical student characteristics and outcomes?
- How effective are magnet schools in assisting desegregation efforts?
- What factors contribute to a successful magnet school?
- What contributions do magnet schools make to meeting urban problems?

As the study has progressed, the importance of the analyses and findings on the effectiveness of magnet schools has increased due to the national attention being focused on public education. In light of the major questions and issues being raised concerning the apparent decline in the quality of education in our public

schools, the Department of Education and the research team recognized that the study results would have significant implications for planning and consideration of methods for improving education quality.

The relevance of the study to urban education reform was reinforced by the discovery of our field teams that the degree of interest in, and commitment to, magnet schools at the local level is much higher than anticipated from existing research and reports. Some local school boards, administrators, teachers and parents are finding magnet schools to be valuable as an approach to revitalization and reform of their schools. If magnet schools are found to be effective educational and desegregative innovations, the concept would serve as a useful model in efforts to improve the effectiveness of public schools, and particularly with urban secondary schools.

Research Design

The research design was developed with the advice and approval of the Department of Education to address the study objectives. We accomplished 10 major tasks--or steps--in carrying out the design:

Step 1: Developed a detailed research design and outline of methodology from the basic design established by the Department of Education

Step 2: Wrote a major concept paper that specified the key research issues and approaches for the study

Step 3: Convened an expert panel of advisors to assist in reviewing the draft study design and Research Issues paper

Step 4: Designed the methods, procedures and instruments for data collection

Step 5: Selected the sample of school districts according to a sampling plan for the national population of districts operating magnet schools

Step 6: Conducted a pilot study of the survey methodology in six urban school districts

Step 7: Analyzed the pilot study results and wrote the Interim Report

Step 8: Revised the survey methodology and data collection instruments and submitted the package for federal clearance

Step 9: Conducted the survey of magnet schools in a representative sample of 15 urban districts

Step 10: Completed a comparative analysis of the district and school data, and wrote the final report.

Research Issues

A key initial task of the research design was to identify the major research issues and problems presented by magnet schools that would lay the foundation for the ensuing research, data collection, analysis and findings. The research issues were defined by the Department's study objectives, our analysis of current issues, and the results of the pilot study. The issues that shape the study are in five basic areas:

1. How effective are magnet schools in improving education quality in urban school districts?

2. What effect do magnet schools have on desegregation through the method of voluntary enrollment?

3. How do the costs of magnet schools compare with costs for nonmagnet schools?

4. What is the importance of district and school leadership in producing effective magnet schools and programs?

5. What part does community support and involvement have in developing effective magnet schools?

Quality of Education:

- Does the special theme and curriculum of a magnet school have an important role in educational effectiveness?

- Do student outcomes from magnet schools compare favorably with other schools within a school district?

- Are selective methods of admission employed by magnet schools and do they affect student outcomes and the quality of education?

- Is the quality of magnet school staff, facilities and equipment an important factor in improving the quality of education? Does the organization, size and racial/ethnic composition of a magnet affect education quality?

- Can magnet schools have an effect on education quality in a district as an education model and as an incentive for teachers, students and parents to improve education?

Effects on Desegregation:

- Does the student racial/ethnic composition of magnet schools reflect districtwide composition?
- Can magnet schools improve districtwide desegregation?
- Does the location, reputation and identity of a magnet school affect its success as a voluntary means of desegregation?
- Do magnet schools generally offer equal access for all students in a district?
- Does a magnet school have positive racial integration and is integration related to improved education quality?
- Does a district's magnet school program reduce community conflict over desegregation and slow white flight?

Costs of Magnet Schools:

- Are some types and themes of magnet schools more costly than others?
- Are there specific cost items for a magnet school that produce a higher total per pupil cost as compared to nonmagnets?
- Do magnet schools have higher start-up costs which tend to level off as the program continues?
- If magnet schools involve extra costs, does the cost produce higher education quality and racial integration?

Leadership at District and School Levels:

- Do urban school districts' board members, superintendent, and top administrators have an important role in magnet success?

- Is magnet program success related to district leadership and support through the stages of program design, strategy, implementation and operation?

- Can magnet schools operate effectively with leadership and management from district staff, principals or teachers?

- Are there particular characteristics and qualities of an effective leader for magnet schools?

Community Involvement and Support:

- Is community involvement in public schools stimulated by a magnet school program?

- Are new types of involvement from the community created by magnets, such as linkages with the private sector, higher education institutions, cultural institutions and community organizations?

- Is high community involvement in magnet schools related to the quality of education and desegregation?

- Are local education problems related to the community's response to magnet schools? Can magnet schools improve community support and confidence in public education?

The research issues under these five major areas formed the basic structure of the methodology for data collection and the comparative analyses across the sample districts. The major study findings are outlined under these five major issues, and the sections and chapters of the final report correspond to these issues.

Comparative Case Methodology

Our proposal to the U.S. Department of Education specified a "comparative case study methodology" for conducting the survey of

magnet schools. This methodology was selected as the most appropriate for addressing the range of questions and interests of the Department, and it combines the collection of quantitative and qualitative data using a structured field interview guide. Data were collected by a team of three senior researchers spending one week in each district and using the field guide to answer a common set of questions across all sites. The researchers: a) conducted interviews with administrators, board members, principals, teachers, community leaders, parents, and students; b) collected quantified data on students, staff, and school costs, and c) observed magnet school operations and rated them on educational quality and racial integration.

Following the Department's specifications for the scope of the study, we did not include any nonmagnet schools in the design for data collection or visit any nonmagnet schools. Thus, all comparative analyses are among magnet schools in the study or between magnets and district grade level averages.

The data from each site visit were organized in a case study report that provided the data base for comparative analyses of magnet schools across the 15 districts. Multivariate analyses employing standard statistical techniques were conducted with categorized and coded data on district, school, and student characteristics, and process analyses were conducted with qualitative data from interviews and field reports.

Sampling Procedures

To identify the population of urban districts operating magnet schools for purposes of sampling, in January 1982 our research staff contacted the 275 school districts in the country with more than 20,000 students (since magnet schools are generally an urban school program), and 75 smaller urban districts that had applied for ESAA magnet funds from 1976-81. Using this procedure, we identified a total of 138 urban school districts and a total of over 1,000 magnet schools.

The sample of 15 school districts for the survey was selected from this population using a stratified random selection procedure, using four district stratifying criteria: district size, number of magnet schools, racial composition, and region of the country. Table 3 displays the characteristics of the district sample. (Pseudonyms are used to protect the confidentiality of selected sites.)

Each district selected for the survey had a minimum of three magnet schools to meet the methodological requirements for the site visits and at least one secondary magnet according to the Department's policy interest in secondary magnet schools. Table 4 portrays the program themes of the sample of the 45 magnet schools in the study.

Assistance from the Department of Education and Study Advisory Panel

Throughout the design, planning and conduct of this multi-year, multi-phased study, the Lowry and Abt research teams worked very closely with officals of the Office of Planning, Budget and Evaluation

SCHOOL DISTRICTS SELECTED FOR THE SURVEY SAMPLE

* * * * * * * * *

School District (by Region)	District Enrollment (1982-1983)	Racial Composition % White	Number of Magnet Schools		Total Magnet Enrollment
Northeast			Elem.	Sec.	
Foundry City*	46,757	46	11	11	17,542
Old Port	17,154	21	0	3	537
Valley City	41,855	49	13	7	4,500
Southeast					
Steeltown	44,717	21	9	4	7,548
Midtown	107,221	23	9	11	6,000
Millville	31,375	49	1	2	1,121
Regional City	46,310	44	5	2	4,502
Midwest					
Clay City	96,311	71	0	3	5,932
Centerville	5,932	48	5	4	1,031
Rivertown	51,722	42	27	12	15,000
Sister City	31,276	69	3	2	2,586
Southwest					
Starville	29,141	55	1	3	3,075
West					
Paradise	22,531	26	2	2	3,038
Sunshine City	109,808	50	7	16	15,200
Evergreen	44,795	52	47	11	8,000

*Pseudonyms for actual school districts.

Table 4

MAGNET SCHOOL THEMES BY TYPE OF SCHOOL PROGRAM

TYPE	Arts	Sciences	Social Studies	Occupations/ Careers	College Prep/ Academics	Alternative	Traditional	Combination	Other	TOTAL
Total-school	5	3	0	0	4	3	4	4[1]	2[3]	25
Part-school	2	1	2	1	6	0	0	4[2]	1[4]	17
Center	2	0	0	1	0	0	0	0	0	3
T O T A L	9	4	2	2	10	3	4	8	3	45

[1]Three with Academics and Arts; one with Academics and Career Education

[2]Two with Humanities and Arts; one with ROTC and Law/Public Service; one with Foreign Languages and Computers

[3]One with Physical Education; one with Marine Science and Ecology

[4]Mass Media Communications

at the Department of Education. Over the two-year period, they were extremely helpful in assisting the study effort and team in many ways, including:

- Identifying appropriate research and data collection methods,
- Obtaining access to federal records and information that contributed to the analyses,
- Working with state and local education officials to collect information and conduct the site visits,
- Completing the process of clearing the survey methods and instruments through the appropriate offices,
- Assisting with analysis of research issues and study findings, and
- Interacting with government officials and grantees responsible for other current education policy studies.

Although the findings of the study are the product of our data collection and analyses, we were greatly assisted by the Advisory Panel of magnet school experts and the officials of the Deparment of Education.

STUDY FINDINGS

Attempting to make general conclusions and statements concerning a complex concept and program innovation such as magnet schools can be a difficult task, particularly when the concept is adapted by many school districts that have widely varied local systems, educational needs and objectives. The 15 school districts and 45

magnet schools that were included in our study each presented certain unique characteristics and environments to evaluate for their relation to magnet schools. However, we are confident that our methods of defining a magnet school, identifying the population of districts and schools, selecting a representative sample, and designing the data collection and analysis methodology have provided study findings that well represent the role and effects of magnet schools in the nation's urban districts.

After many months of analysis of the study data and survey results, we conclude that not only can magnet schools be effective vehicles for providing quality education, but if properly utilized can facilitate desegregation in a manner not disruptive to the community. In analyzing the magnet school concept as it is implemented in urban school districts across the country, the findings on the five major research issues are:

Improving Quality of Education:

1. Magnet schools can and do provide high quality education in urban school districts. One-third of the magnet schools in our study have high education quality as measured by ratings of instructional quality, curriculum, student-teacher interaction, student learning opportunities and use of resources.

   - High education quality in a magnet school is strongly related to three factors:

     1) an innovative, entreprenurial principal;

     2) a high degree of coherence of the theme, curriculum, teaching methods and staff to form a strong program identity; and

3) special treatment by district administration with rules, conventions, and procedures.

- Magnet school education quality is not related to its size, type of theme, or method of organization (total school vs. part-school program).

- Across the total sample of magnet schools and districts in our study, there was wide variation in education quality, which indicates differences in district objectives and commitment to magnet programs.

  - Most magnet schools do offer educational diversity and choice of type of education to students and parents in urban school districts.

- The primary district-level factors in high education quality with magnets are policy commitment, a district program strategy and implementation plan that emphasizes improving education quality, and administrative flexibility with the schools.

  - Districts that have educationally effective magnets give their magnet schools flexibility and some special treatment in administrative procedures, staffing and use of resources.

  - In districts that take a low-priority approach to magnet schools, and view them mainly as a means of reallocation of students and/or giving new labels to old programs, there is little indication of quality improvements. Approximately 25 percent of districts take this low priority approach with little quality results.

- In magnet schools with high education quality, the principal, teachers and other staff are selected according to criteria that are consistent with the school theme and objectives.

  - Magnet school teachers in effective schools typically have high levels of commitment to the magnet concept and high interest in the theme-based instruction.

- Staff are selected through a process that departs to some degree from district standard procedures, e.g., specifying need for certain experience and training, commitment to the concept, capacity for spending extra time and effort with students. Generally, the magnet principal has a greater role in selection than in other schools.

- Many of the educationally effective magnet schools make use of specialists from the community to provide unique assistance with instruction and resources for learning.

2. Quality education in magnet schools does not require highly selective methods of student admission.

- Magnet schools with high quality education serve average as well as high ability students.

  - The degree of selectivity in admitting students is not related to our ratings of the quality of education in instruction, curriculum, learning opportunities, etc. (see Table 5).

  - Most magnet schools do not select only the brightest students. Of the 45 schools in the study sample, only 14 use achievement test scores, grade point averages or other highly selective methods of admitting students. The magnets that use highly selective admitting standards are generally in those districts where parents were supportive of this type of magnet.

  - Voluntary enrollment does improve the quality of education in magnet schools by self-selecting more motivated students. In most magnets, students with academic or behavioral problems are screened out.

- Eighty (80) percent of the 32 magnet schools in our study that reported achievement test scores have higher average scores than their district averages. Differences are partly due to methods of selecting students for magnet schools.

  - In over 40 percent of the schools, students' average reading and mathematics achievement scores were over ten points above district averages.

- Twenty percent of the magnets had average student achievement scores over 30 points higher than district averages for the grade level.

- The magnets with the highest achievement scores generally have used more selective methods of admitting students.

- Other student outcomes measures, including average daily attendance and dropout, suspension and transfer rates, show that magnet schools have more positive outcomes than district averages, which is a function of voluntary enrollment and self-selection.

Importance of District and School Leadership:

3. Magnet schools will not succeed unless there is strong district leadership for a magnet schools policy and a plan for implementation as well as school leadership that is innovative and resourceful.

- The districts with the most effective magnet schools, in education and desegregation, have strong district-level leadership for the magnet program from the school board, superintendent and key district administrators.

  - School boards in these districts make a policy commitment to magnet schools, develop a consensus of support for the policy and establish a strategy for implementing the program.

  - The superintendent and top administrators play key roles in implementing the program strategy by establishing a process and system for selecting schools, developing magnet themes, gaining broad community participation, selecting principals and staff, and recruiting students.

  - The districts in our study that did not improve the quality of education with magnet schools were characterized by weak district leadership of the program, low policy commitment to magnet schools, and little planning and program development in the schools.

- Principals of effective magnet schools exhibit strong qualities of an educational "entrepreneur": a high degree of innovativeness in development of curriculum, resources and community involvement, as well as recruiting and motivating teachers and students who are committed to the magnet concept and theme.

  - One of two basic models of principal leadership were used in effective magnet schools: (a) a model in which district staff plan and design the program and principals lead in staffing, curriculum development and building the magnet reputation; or (b) a model where principals lead all major tasks from design and staffing to student recruitment and program implementation.

  - The principal is the key leader in developing the program design and resources into an operational reality that provides a unique and distinct combination of staff, curriculum and students.

  - Districts with effective magnet schools select principals and staff using special criteria for recruiting and evaluation of candidates that are appropriate to magnet schools.

  - Effective principals involve teachers and staff in all aspects of the program, which increases their support and motivation.

- Educationally effective magnet schools have district leaders that continue strong support of the program after implementation.

  - Continuing leadership at the district and school levels is important for maintaining the special rules, procedures and support that make magnet schools unique.

  - Leadership and support from the distirct level is strongly related to community involvement in magnet schools through assisting with instruction, recruiting and resource support.

  - Maintenance of leadership support gives the magnet schools program a more positive perception from parents and the community.

- Magnet schools can continue to be expanded and considered as education models only if they are not viewed as a temporary or alternative program that can only affect a few students.

Effects on Desegregation:

4. Magnet schools have a significant positive impact on districtwide desegregation under certain district conditions, including strong policy commitment and effective implementation of a districtwide plan.

   - Forty (40) percent of urban districts that develop magnet schools with the intent to affect districtwide desegregation do have positive results. Two-thirds of districts in our study had this objective for their magnet programs.

     - Complete desegregation is not generally accomplished in these districts, but successful use of magnets has decreased the percentage of students in racially isolated schools from an average of 60 percent to less than 30 percent.

   - The districts showing the most progress in districtwide desegregation using magnets employ a variety of methods both voluntary and involuntary, as part of a total desegretion plan, including pairing, rezoning, two-way busing and mandatory assignment. Other factors related to districtwide desegregation with magnets are: strong leadership policy commitment to magnets and desegregation, more than one major ethnic or racial minority group, and larger district enrollment.

   - In two-thirds of the magnet schools, there is full racial and ethnic desegregation.

     - Districts generally make strong efforts to desegregate their magnet schools and typically recruit and select students specifically for this purpose. The one-third of magnets that are not fully desegregated are in districts where the leadership did not make full desegregation a program objective.

     - A small minority of magnets (10-15%) operate to provide a haven for whites from busing, are underenrolled or

help to forestall districtwide desegregation, but even these magnets have partial desegregation.

- Positive racial integration is advanced by magnet schools.
  - A racially integrated learning environment in magnet schools is related to the district achieving stable racial/ethnic balance and having a strong desegregation objective with magnets.
  - Racial integration within a magnet school is advanced in magnets with higher education quality. Magnet schools with a better learning environment also promote positive interracial interaction, learning and understanding.
  - The factors that help to produce positive racial integration are: principal leadership, some type of special treatment by the district, and consistency between the magnet theme and objectives and the program for delivering education. (See Table 5)

- A favorable location and identity of a magnet school in a community help in meeting racial composition goals, but there are many examples of successfully desegregated magnet schools that are located in poor, predominantly minority neighborhoods.
  - Fully heterogeneous student composition is easier to accomplish when a magnet is located in a racially mixed, neutral or middle class neighborhood.
  - The major factors leading to desegregation of a magnet school in a less desirable location are: a) the degree of effort during program planning and development to improve the school identity, and b) the strategy for gaining support for the school and for student recruiting to the theme.

- Magnet schools help reduce real and potential community conflict concerning desegregation.
  - Over 50 percent of the districts in our study had experienced conflict over desegregation and developed magnets to resolve some of the antagonisms and opposition.

In other districts, magnets helped to anticipate and prevent potential conflict.

- The magnet school concept works to bridge the gap between a desegregation policy and citizen fears. Magnet schools serve to indicate the district's efforts toward a remedy and they give parents and students choice and a greater sense of control.

- But, if magnet schools are implemented without delivering on their promises, new tensions and resentments can easily be created within the community.

- Magnet schools have a positive effect on holding students in public schools and reducing "white flight."

  - Many magnet school programs are developed with the intention of reducing enrollment decline, and particularly white, middle class students. Several districts in our study have effectively used magnets to compete with suburban and nonpublic schools, and hold down movement of students out of the district.

  - Magnets are generally desegregated more easily where there is population growth and multiple minority communities. But, when these conditions are absent, magnets can still help reduce white flight.

Costs of Magnet Schools:

5. The total cost per student in magnet schools is slightly higher than for nonmagnet schools, but the quality of education and racial integration in magnet schools are increased by the extra spending.

   - The average total cost per student for magnet school was approximately $200 more than nonmagnets in 1980-81, and the cost declined to only $59 more in 1981-82.

   - The average total cost per student in secondary school magnets was approximately $200 more per year in 1981-82 than the average cost in nonmagnet secondary schools. Elementary and intermediate level magnet schools tend to cost slightly less than nonmagnets. (See Table 7)

- Part of the extra costs for magnet schools is due to start-up costs which decline over the operational years. The data from our study show that the $200 per student average cost for secondary magnets had declined from $850 for 1980-81, due to fewer new magnet schools being created.

- The cost items accounting for higher magnet costs are average salary per classroom teacher for secondary magnets and pupil transportation.

  - Nonpersonnel costs for magnet schools tend to be higher during startup of the program due to items such as construction, equipment and supplies.

  - The main nonpersonnel cost difference for magnet schools is transportation, accounting for a $100 higher average per student cost.

- The costs of magnet schools across districts and schools are positively correlated with education quality ($r = .38$) and racial integration ($r = .34$).

  - Magnet costs are not much higher than the costs for other schools, but the extra spending pays off in better education.

  - Districts that do not make a small investment in magnets do not realize quality improvements.

- The total cost per student for magnet schools varies by theme with specific, single-theme magnets having lower costs than combination themes.

  - The average per student cost for a combination theme magnet (two or more themes in the same school, e.g. academics and arts) was $3,358 in 1981-82.

  - The average per student cost (1981-82) for a science/math theme magnet was $2,214; arts: $2,686; general academic: $2,408; and social studies: $1,899.

  - It had been expected that science and arts themes would have higher costs due to the special equipment and teachers that are typically necessary, but these themes

had lower costs than magnets that offer a broad range of special subject areas under the magnet concept.

- Federal ESAA funds for magnet schools played an important role in helping districts plan and implement programs and bear necessary start-up and early operational costs.

  - Districts that were not in the ESAA program typically sought start-up assistance from private sources, state funds, or other special funding but it generally did not match the level of federal support for magnet programs.

  - Only a few magnet schools have completely disappeared due to the loss of ESAA support (indicating districts' commitment), but many have reduced program services and most of these districts have not considered further expansion of magnets.

  - ESAA funds typically allowed magnet schools a greater deal of flexibility in programming that helped make the schools unique, e.g. part-time professionals, equipment, special activities, curriculum development.

Community Involvement and Support:

6. Effective magnet schools benefit from active community involvement in program planning, design, instruction and support.

   - The districts with the highest quality of education in magnet schools had high levels of community involvement from parents, businesses, universities, or community organizations due to the attraction of magnet themes and district and school efforts to build unique, quality programs.

     - Community involvement in magnet schools takes on forms normally not found in public schools, such as planning program designs, helping write curriculum, providing part-time teachers, and arranging for special equipment or facilities.

     - All magnet schools gain higher parent satisfaction than other schools due to the voluntary enrollment, but what differentiates educationally and desegregatively effective magnets are new and unique forms of parent involvement and the involvement of community organizations.

- Community participation in the initial planning and strategy for the magnet program tends to decrease opposition and lead to high involvement in implementation.

  - Leaders of effective magnet programs generally had wide participation in program planning decisions, such as magnet locations and themes, student recruiting, and student selection procedures. Of the six districts with the highest quality education in magnets, five had wide participation and input from the community in planning (see Table 6).

- Effective magnet schools can help increase community confidence in public education.

  - In districts that have delivered a magnet program according to what was planned and expected, and gained good publicity, magnet schools have helped increase public support for the district.

  - Magnet schools that gain the reputation of being unique in name only, or favoring certain groups of students for admission, can create additional problems in community confidence and support for public education regardless of the quality of the magnets.

Based on these major study findings, we have outlined a set of ten key steps in developing a successful magnet program (beginning on page 43).

CORRELATION OF MAGNET SCHOOL EDUCATION QUALITY, FACTORS IN QUALITY AND RACIAL INTEGRATION

	% Black students	Special treatment	Consistency	Principal quality	Selectivity	Quality of education	Reading achievement	Math achievement	Racial integration
% Black students in magnet									
Special treatment									
Definiteness of theme and program		0.48							
Principal quality		0.44	0.49						
Selectivity		0.30		0.48					
Quality of education in magnet		0.55	0.43	0.56					
Reading achievement	0.29	0.44	0.35	0.56	0.52	0.34			
Math achievement		0.45	0.38	0.54	0.52	0.39	0.94		
Racial integration	0.38	0.48	0.33	0.54		0.62	0.44	0.43	

NOTE: All Pearsonian correlations shown are those significant at the $p \leq 0.05$ level

Definition of Variables in Table 5

% Black students : Proportion enrolled in magnet school (1982-83)

Special treatment accorded magnet by District Administration: From 100 = permission to depart from rules, regulations, conventions of district with regard to budget/financial support, extra-curricular activities, educational program, discipline, transfer/remand policies, etc. to 0 = no permission to depart, treated no differently than regular school.

Definiteness: From 100 = theme, curriculum, teaching methods, and staff suitability strongly coordinated to form highly coherent educational program with strong identity, to 0 = poor coordination of theme, etc., very fragmented educational program with little coherence and identity.

Principal Quality: From 100 = exceptionally capable administrator/leader who exercises extraordinary entrepreneurial drive and skills in building school, to 0 = very poor principal who exercises no leadership and only minimal administrative skills.

Degree of Selectivity in Admissions: From 15 = reliance on some combination of tests, grades, references, and behavior indicators for admission; does not host special needs students; and remands to sending school for failure to maintain grade/behavior standards, to 3 = admissions by lottery, hosts special needs students, and does not remand.

Quality of education: Sum of observational ratings across 5 scales (Activity Rate, Interaction Rate, Sentiment Rate, Congruence of Goals and Operations, Realized Resources) describing various aspects of quality education.

Reading achievement*: (School math score) minus (district reading score). Constant of 22 added.

Math achievement*: (School math score) minus (district math score). Constant of 22 added.

Racial integration: Sum of observational ratings across 3 scales (demographic, organizational, and segregation) describing various aspects of quality integration.

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*Tests, metrics, time of testing, and grades tested varied widely across districts. However, in all cases, these factors are comparable between school and district within district.

TABLE 6

CHARACTERISTICS OF DISTRICT MAGNET PROGRAM DEVELOPMENT AND EDUCATION QUALITY RATINGS

DISTRICT	District strategy	Leadership Policy consensus	Participation in strategy	Implementation leader	Staff involvement	District support	Community involvement	RATING OF EDUCATION QUALITY
[illegible]	Broad	High	Wide	Shared	Average	High	High	84
[illegible]	Broad	High	Wide	District	High	High	High	82
[illegible]	Limited	High	Wide	Shared	Average	High	High	78
[illegible]	Broad	Low	Narrow	Principal	High	Mixed	High	76
[illegible]	Limited	High	Wide	District	Average	High	High	74
[illegible]	Broad	Low/high	Wide	Principal	Average	High	High	72
[illegible]	Limited	Low	Wide	Principal	High	Mixed	High	71
[illegible]	Limited	Low	Narrow	Unclear	Low	Mixed	Average	70
[illegible]	Broad	High	Narrow	Principal	High	High	Average	68
[illegible]	Limited	High	Wide	District	High	High	High	67
[illegible]	Broad	High	Wide	District	Average	High	High	61
[illegible]	Limited	Low	Narrow	District	Low	High	Low	41
[illegible]	Limited	Low	Narrow	District	Low	Mixed	Low	39
[illegible]	Limited	Low	Narrow	Unclear	Average	Mixed	Low	36
[illegible]	Limited	Low	Narrow	Unclear	Average	Low	Low	43

Note: 100 equals high rating on all indicators of education quality.

Definition of Variables in Table 6

District Strategy:	School district program strategy for selecting, locating and developing magnet schools; Broad = large number of magnet schools spread across the whole district or a large proportion; Limited = small number of magnets (five or less) located in specific schools and areas of district.
Leadership Policy Consensus:	Degree of agreement among school board members, superintendent and top administrators on a magnet school's policy for the district and the program's objectives.
Participation in Strategy	Extent to which district staff, principals, teachers and community members are involved in developing plans for the magnet program.
Implementation Leader:	Responsibility for major leadership in magnet school development, coordination, staffing, and organization.
Staff Involvement:	Degree of participation requested and obtained from teachers and other staff in developing the magnet schools.
District Support:	Extent to which the district leadership (board and central administrators) encourage magnet school continuation in years after implementation and maintain resources for the program.
Community Involvement:	Degree of participation and support from parents, community leaders, private sector, higher education institutions, and cultural and community organizations for magnet school instruction, design, recruiting and facilities and resources.
Ratings of Education Quality:	District average on ratings of magnet school education quality as measured by indicators described in Table 5 definitions.

TABLE 7

MAGNET SCHOOL COSTS

AVERAGE TOTAL COST PER PUPIL: MAGNET VS. NON-MAGNETS

	Elementary		Intermediate		Secondary		All Schools	
School Type	80-81	81-82	80-81	81-82	80-81	81-82	80-81	81-82
MAGNET	$2,263	2,308	2,978	2,791	3,503	2,953	2,652	2,618
NON-MAGNET	$2,268	2,401	3,348	3,240	2,667	2,787	2,452	2,559

AVERAGE SALARY COST PER CLASSROOM TEACHER

	Elementary		Intermediate		Secondary		All Schools	
School Type	80-81	81-82	80-81	81-82	80-81	81-82	80-81	81-82
MAGNET	$20,182	19,761	23,043	22,696	21,527	21,623	21,055	21,202
NON-MAGNET	$19,572	20,411	24,967	22,130	20,373	21,202	20,016	20,507

AVERAGE TOTAL NON-PERSONNEL COST PER PUPIL

	Elementary		Intermediate		Secondary		All Schools	
School Type	80-81	81-82	80-81	81-82	80-81	81-82	80-81	81-82
MAGNET	$751	784	950	904	1,310	1,085	878	909
NON-MAGNET	$723	776	1,002	1,009	805	852	766	808

KEY STEPS IN DEVELOPING AN EFFECTIVE MAGNET SCHOOL PROGRAM IN AN URBAN SCHOOL DISTRICT

The findings from the national study of magnet schools show that magnet schools can be effective in improving education quality in urban school districts and assisting with school desegregation. However, magnet schools across the country vary widely in quality and effectiveness. Many districts currently operating magnet schools and programs can make improvements by considering the elements of quality programs we have identified. Urban district administrators, school board members, parents, principals and teachers who are planning magnet schools can benefit by the analysis of factors at the district and school levels that are important in producing effective magnets.

In planning magnet program development, education decision-makers should keep in mind the ideal design for magnet schools as indicated by our study findings:

a) Districtwide access for students on the basis of voluntary preference;

b) A curricular theme that is definite, appealing, and distinctive;

c) A principal and a staff composed and disposed to deliver on that theme, as advertised;

d) Instruction that is reviewed by the district for its rigor and fairness -- accountability;

e) A facility and site chosen for their racial, ethnic, and socio-economic neutrality;

f) Good transportation and school security services;

g) Student and staff composition that closely reflects the racial and ethnic composition of the system;

h) A method of checks and balances that will prevent segregation or service deprivation in non-magnet schools;

i) Startup funds for facilitating early success in implementation.

The elements of program planning, design and development that are necessary to produce effective magnet school programs are outlined in 10 steps and a series of decision points that are critical to fulfilling each step. Figure 1 offers a diagram of the steps in development.

1. Identify district education problem(s) to be addressed.

   a) Assess the extent and breadth of interest in magnet schools and themes within the community; seek broad and varied input into consideration of problems that can be addressed and what problems might be raised by magnets.

   b) Evaluate the status of desegregation in the district and how magnet schools could best assist with improvement of racial/ethnic composition and response to desegregation.

   c) Determine public, parent and district concerns with the quality of education and approaches that would make improvements.

   d) Consider capacity of buildings and degree of underutilization; quality of facilities.

2. Establish the district's desegregation and education objectives for the program.

   a) Evaluate how magnets will fit goals for desegregation: districtwide effects and school-level goals; assistance with a specific area/schools or impact on total district.

   b) Set the objectives for improving education quality: increase the available curriculum options, improve the core academic curriculum, offer greater career preparation, or a combination of the three.

FIGURE 1

KEY STEPS IN MAGNET PROGRAM DEVELOPMENT

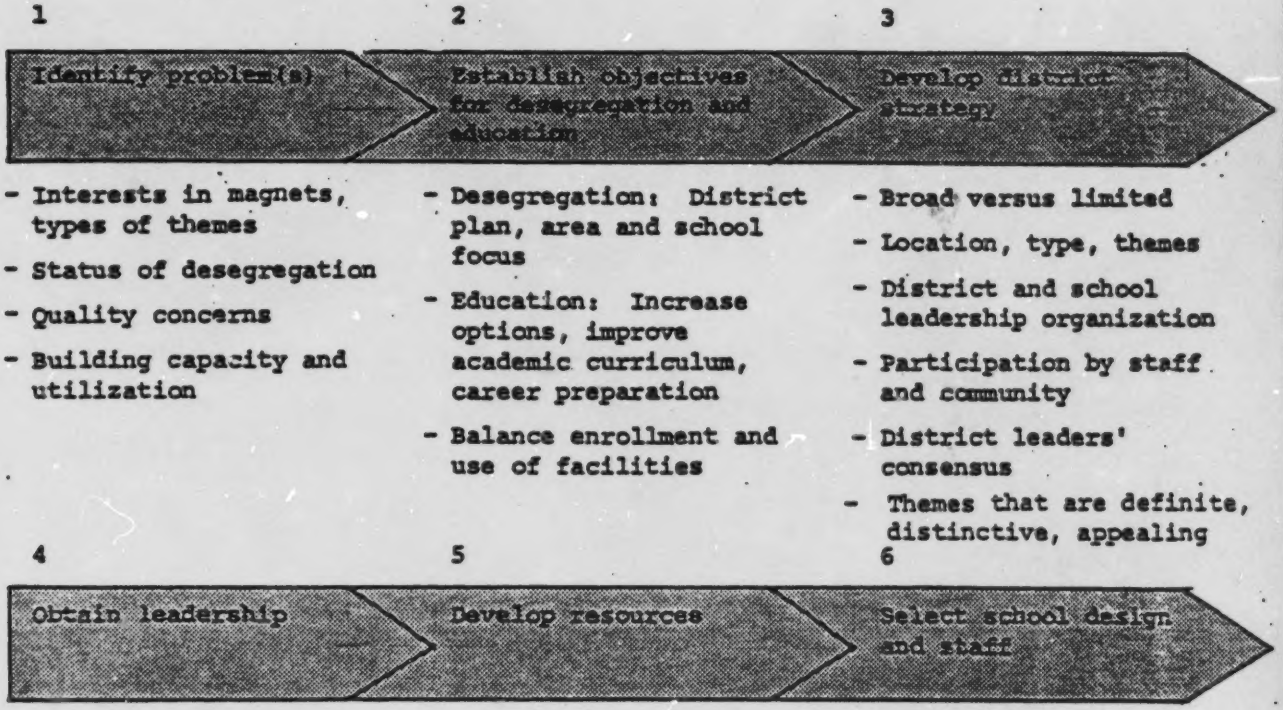

FIGURE 1
(2)

KEY STEPS IN MAGNET PROGRAM DEVELOPMENT
Continued

7 Write curriculum

- Integration of theme
- Relation to district-wide curriculum
- Encourage innovation
- Staff team building
- Use specialists
- Experiential education

8 Publicize program and recruiting students to meet objectives

- Students versus district
- Equal access
- Broad public support
- Community involvement
- School recruiting

9 Organize students and staff

- Interests versus tracking
- Building magnet identity
- Expectations and attitudes
- Staff coordination

10 Maintain support

- Funding and resource support
- Community roles
- Publicity in outcomes
- Innovative features
- Spin-offs and expansion

c) Establish methods of gaining broad student access and opportunity to volunteer for magnets.

d) Determine how magnet programs can help balance student enrollment between schools and areas; improve efficiency of facilities.

3. Design the overall strategy for meeting desegregation and education objectives

a) Consider appropriateness of a broad strategy that encompasses a large number of schools and areas of the city vs. a limited strategy that focuses on a few quality magnet schools; extent to which the strategy includes program expansion based on successful results.

b) Determine the approriate locations, types of programs and themes based on interests/needs, objectives and basic strategy; balance the strategy variables to create maximum positive response across the total community and will ensure racial/ethnic student balance and district desegregation progress.

c) Select themes that are definite, distinctive and appealing.

d) Assign responsibilities for district program coordination and determine system for management of implementation and operation in schools.

e) Ensure participation by school-level staff and community in strategy-development process.

f) Obtain the consensus of district leadership on strategy: school board, superintendent and top administrators.

4. Appoint strong leaders for program implementation

a) Select a central program coordinator at the district level with access to decision-makers, strong management and innovative capacity, and ability to work closely with principals and teachers.

b) Identify criteria for effective magnet school principals, including leadership qualities, resourcefulness, experience with the theme, contacts with the community, and curriculum interests.

c) Determine qualities of candidates, including existing principals and new applicants, and then hire most qualified on magnet criteria.

5. Identify and develop program resources

a) Assess the number and types of staff required for the proposed magnet themes and designs.

b) Plan what community support and resources will be sought: business and industry, universities, cultural and education organizations, and parent groups.

c) Assess the quality and appropriateness of buildings and facilities: if necessary, close school to make changes and upgrade its remodeling to create new perception in the community.

d) Compute the amount of extra funds necessary for program startup and operation; seek sources of funding for the program, preferably outside the regular district tax revenues.

6. Design individual school programs and select staff

a) Design a school-level program that matches the theme and purpose -- including curriculum, staff qualities, student enrollment plan, unique activities and teaching methods, community resources.

b) Plan the use of available space and facilities for the program design.

c) Hire teachers and other staff for magnet program using criteria for evaluation based on magnet theme, particularly special training and skills, commitment to the magnet concept, ability to work closely with teachers and students, capacity for innovation and flexibility.

d) Develop staff participation in the program design process in coordination with district-level curriculum staff.

e) Seek participation of parents, community organizations, business and higher education institutions in school-level planning and design.

7. Write and develop curriculum

a) Integrate the theme into the courses, activities and elements of the program design; maintain theme distinctiveness.

b) Establish relationship of the magnet curriculum to the districtwide curriculum for the grade level.

c) Encourage and facilitate innovation in curriculum and teaching methods; include multi-cultural, multi-ethnic learning.

d) Use curriculum writing as an opportunity for team-building of magnet staff; identify and develop unique elements of the program.

e) Incorporate community specialists through part-time or volunteer instruction.

f) Develop methods of integrating experiential education.

8. Program and school publicity/recruiting

a) Design the marketing and recruiting approach, e.g., districtwide vs. focused on specific areas or population groups that are less likely to respond.

b) Incorporate methods and techniques that will help maintain equal access to magnet schools.

c) Integrate parent and community resources in publicity and recruiting; develop media campaign.

d) Coordinate recruiting efforts by individual magnet schools to reduce negative responses from other schools.

e) Build methods of self-recruiting through students and parents and program reputation.

9. Motivating and organizing students and staff

   a) Organize magnet classes and activities that are interest-based and racially heterogeneous, not tracked or racially stratified.

   b) Build positive identify of the magnet school among students and staff and within community.

   c) Establish high expectations and student attitudes promoting educational objectives.

   d) Develop clear rules and procedures for magnet operations.

10. Maintain support for program

   a) Stimulate necessary funding and program resources to maintain unique and special magnet characteristics.

   b) Expand and reinforce private sector, university, community organization and parent involvement.

   c) Develop and disseminate publicity on magnet results and outcomes.

   d) Identify potential for innovative features/themes of magnets to be used and shared with other schools.

   e) Develop plan for spinoffs of magnet successes and expansion of the concept based on parents, students, and community interests.

In the preceding sections, we have summarized the major findings of the study and recommended the key steps in magnet program development. In the final section we outline several policy options with magnets for federal, state and local decision-makers.

POLICY OPTIONS WITH MAGNET SCHOOLS

The findings from the national study of magnet schools provide a solid base of evidence and analysis for considering several options for the future of magnet school programs. The study results were derived from analysis of magnet schools in a representative sample of the nation's districts currently operating magnet school programs. These results thus offer a unique opportunity to consider several options for education policy that could assist the development and improvement of magnet school programs.

The following list of policy options, divided into federal or state options and local district options, should not be considered recommendations of the study contractor for policy change, but rather suggested options based on our findings and analyses:

Federal or State Options

1. A program of grants to urban school districts that encourages establishing, developing and maintaining magnet schools as models of educational excellence and integration.

   Pros:

   A federal or state funding program to offer "seed money grants" for local magnet schools could have two important benefits:

   - First, the funds would allow districts to overcome the main initial barrier to quality magnet schools of staff time for careful planning, strategy development, marketing, community relations and recruitment.

- Second, the grants would bridge the small differential in per student costs of secondary school magnets, as compared to nonmagnets. A district can be encouraged to initiate or expand magnet programs if per student costs are not excessive.

- Initial funding could be a combination of federal funds and local support with the federal role declining as the program becomes operational, but continuing to support the small extra costs that produce highly effective programs.

Cons:

- A federal magnet school program would require support for greater assistance to urban school districts either by direct grants or through states. The program would also need to be coordinated with the existing block grants to states since a specific program is targeted, rather than being an option for states to choose.

Discussion:

Federal funds spent on magnet and other ESAA programs dropped from a high of $398.5 million in 1979 to $25.2 million on comparable activities in fiscal 1982 with the Chapter 2 Block Grants. At the same time, urban school districts experienced a decline in Title IV funds under the Civil Rights Act from about $46 million to $24 million.

- Our survey has shown that this drop in federal aid has shivered the timbers of many magnet schools and programs but has not resulted in their destruction, even though Chapter 2 funds go overwhelmingly to meet other local needs. For the present, magnets have outlived the capping-off of more than $100 million a year in states where state aid has, since 1979, gone into equivalent magnitudes of reduction.

- Few new magnets are being created, meanwhile, and some districts have been debating the issue of terminating their magnets for the last two years. It is too early to assess how changes in federal and state aid will affect the future scope and viability of magnets, simply because localities and states alike are currently reformulating educational priorities and magnets will take their place in the course of this policy dialogue.

Costs:

If a federal policy aim was to develop magnet schools that are well designed, located, and managed to provide high quality integrated education, what would the funding come to? If we posit 300 districts as being realistically willing and able to employ magnets, with an average total enrollment of 35,000, and with an average of 15 percent of students enrolled in magnets, we are dealing with 1.6 million public school students a year.* If we use our finding of $200 per pupil cost differential for magnets, especially in their startup years, then the minimum aid required is $320,000,000, setting aside costs of administration of the aid.

Our cost analysis shows that the average per pupil difference declined over one year from $200 to $59. This decline was consistent for districts that had been ESAA funded as well as those that were not. There is reason to believe then that the $200 differential comprises early startup outlays, regular

*We say 300 because this consists of the 240 districts with 20,000 or more students and another 60 smaller districts from the 5,000 to 20,000 range.

operational costs, and the use of ESAA funds as a special opportunity for equipment and supplies purchases. Thus, the external aid might reasonably be computed on a $100 rather than $200 difference, yielding a $160 million annual investment in a total of 300 urban school districts.

Alternatively -- recognizing "overtime" reductions in magnet costs are realistic -- the aid might be set at $200 per pupil in Year 1 and go to $50 by Year 5. This would put the total aid package nationally at $320 million in Year 1, with decrements thereafter until it stabilized at $80 million to $100 million. None of these figures include inflation.

2. <u>To provide local flexibility in design of programs and use of funds, a federal or state magnet program would not be restrictive with unnecessary regulations</u>.

<u>Pros</u>:

With flexibility for local conditions and systems, magnet schools can more easily become a part of the regular administrative structure rather than being viewed as a special, temporary or demonstration program. School districts should be encouraged to use magnet schools as models for excellence and part of a curriculum reform strategy.

- Educational quality concerns have taken on a new primacy. Magnet development has shifted from an emphasis on elementary to an emphasis on high schools. Desegregation planning has become more supple, with new

approaches being taken toward inter-district and increasingly voluntary features. These trends may change in unexpected ways in the years ahead.

- At the same time, many state boards have become increasingly regulatory, introducing new, often legislated, testing programs and curriculum requirements.

- Local systems need aid, accountability requirements, and technical assistance with planning, implementation and evaluation, but their magnet development efforts do not need heightened regulation. Magnets require permission to be different. They must have freedom to perform well.

- Regulations that lead toward isolation or separation of magnet schools from the district curriculum or other schools run the risk of magnets being labeled as alternative schools, special experimental programs, or schools only for students with special abilities or needs.

Cons:

- Federal aid for magnets, if renewed and expanded, might entail a proliferation of proposals and monitoring management expenses. Proposal development is costly for localities and obligates costly review by the Department of Education. This approach, moreover, tends to set magnets apart from regular operations in undesirable ways, both locally and federally. It certainly breeds uncertanties at the local level which diminish program definiteness and stability -- contributions to quality.

- Federal aid should not be ringed about with regulations once eligibility has been established. Regulations lead to local restrictions and buildup of federal or state bureauracy.

Discussion:

Our study does not illuminate the issue of how aid might best be shared between the three layers of government, or what should be the allocative mechanisms and terms. We are convinced

that very few state education agencies have accumulated expertise at all adequate for providing technical assistance, let alone legislated appropriations for magnets. Exceptions include Washington, California, Florida, New York, Connecticut, and Massachusetts, among others; but there are probably between 30 and 40 state agencies that are quite inexperienced with magnet development. And, among the 300 districts most desirous of creating or maintaining magnets, we estimate that 225 are currently encountering severe revenue crises.

Magnets are in their infancy but they have been around long enough so that features do not have to be reinvented constantly in order to become eligible for aid. The aid source could instead devise a simple checklist with legal "boilerplate" which together would constitute an application. The checklist would concern verification of magnet aid eligibility, not the basis for grant competition. We also suggest that aid run for five years, with option to be renewed for one five-year period thereafter if independent evaluation indicates success of the magnet.

3. To effectively contribute to urban education, federal or state support for magnet schools should be linked to district efforts to desegregate their schools.

Pros:

- Eligibility for magnet aid should consist of evidence that a school board seeks to create or to maintain racial/ethnic equity in its district and to operate magnets that display high quality education and high racial integration as defined in this study report.
- Magnet schools have proved to be a useful tool for racially mixed school settings and in improving racial/ethnic integration and advancing multicultural education with schools.
- The advantage of the magnet school concept for within-school integration is that the curriculum and school organization often encourage multi-cultural learning and sensitivity, as opposed to a special program model consisting of seminars, lectures or special events.
- Magnet schools' role in district desegregation can be aided by emphasizing support for districts that are in the process of desegregating or districts that have already implemented a desegregation plan and stabilized school racial/ethnic composition but would now like to augment their plan with magnets.

Cons:

- Desegregation goals will require some federal or state monitoring of district plans for magnet schools in comparison to overall district desegregation efforts.
- If magnet schools do not have a role in district desegregation through the method of voluntary enrollment of a heterogeneous student racial/ethnic composition, the magnet school concept will lose its unique and valuable role in urban education.
- Magnet schools can effectively combine curriculum innovation and voluntary desegregation, but if the magnet design is used for only one of these objectives, the concept loses its capacity as an innovative approach for school organization.

4. Information dissemination and assistance with magnet design and implementation would be an appropriate method of federal or state support for magnet schools and could be effective in assisting urban districts to develop high quality magnet education. Assistance would be particularly valuable for magnet schools at the secondary level.

Pros:

Technical assistance with program design and development is highly desired and proactively sought by school systems interested in magnet schools. For instance, all of our sampled districts reached out to other districts that had magnets for information and advice. Administrators, policy-makers and magnet planners typically made trips to see operating magnets, often spending several days in the host district, visiting several magnets and collecting as much written material as possible.

We suggest that assistance might be enhanced and sharpened through utilization of dissemination capabilities already in place (such as the National Diffusion Network and NIE's Research and Development Exchange). For every little additional cost, these organizations could assist with magnet development by conducting regional/state workshops and conferences, developing materials to aid magnet planning, and performing linking activities to place districts interested in magnets in touch with those that already have them.

Districts considering magnets commonly seek information and advice on several topics:

- Identifying and selecting magnet themes: In the earliest planning stages, local planners tend to seek information about "themes that work." A major need is to fit themes to the local setting and to gain recognition of the flexibility and possibilities for magnet themes. Information is necessary to identify and select themes that will work in a specific district and community. Potential approaches from our sample districts include:

    a) mail and phone surveys of the community,

    b) extensive meetings with community leaders, parents, teachers, and principals,

    c) surveys of offerings in competitor private schools,

    d) using the experience and judgment of long-time district administrators and policy-makers.

- Magnet staff selection: Assistance and advice can be useful in planning staff needs, or as one of our survey respondents put it, "to see what kind of people it takes to run one of these things." Magnet planners often seek information on strategies for resolving special magnet staffing needs with union contract requirements or long-standing district policies and customs of transfer and seniority. Districts that are faced with large teacher surpluses face special problems in this regard.

- Identification and use of part-time staff and outside specialists (e.g., artists, scientists) from the community: Magnets provide an excellent opportunity to reach out and make creative use of rich personnel resources in the larger community. However, school districts are not accustomed to doing this. Mechanisms for identifying appropriate outsiders are not in place, and standard personnel policies mitigate against the flexibility required to use part-time and noncertified staff. However, the outstanding examples from our study show it can be done successfully.

- Student selectivity issue: The local policy debate could be clarified by knowledge about other specific selection mechanisms (e.g., interview protocols, behavioral standards) that have been tested in practice and could be helpful.

- Marketing magnets and recruiting students: Public school districts are not accustomed to these activities, for they are not generally a part of public education. However, in the case of magnets, marketing and student recruitment are essential activities, for magnets are voluntary. This issue encompasses questions as broad as designing an effective media campaign or as narrow as how to recruit particular groups of students that are difficult to reach.

- Increasing magnet accountability: Magnets are visibly different: they stand out as special, and they can consume extra district resources (whether financial or political). Magnet financial accountability could be increased through use of program budgets, indirect cost accounting, and multi-year planning. Coupling program evaluation assistance with financial accountability would aid district decision-makers in developing magnet educational quality.

Cons:

- Technical assistance is not effective when it is offered by the same agency that is regulating a program or monitoring the use of funds. The problem is not in the intent or qualifications of staff but in the perception of the function of funding agencies by school districts and the difficulty of effectively combining monitoring and assistance roles.

Discussion:

Technical assistance and information can be very helpful to districts if provided in a manner that is separate from regulation. For example, we suggest above that assistance can be useful to urban districts in the sometimes sensitive area of magnet student selectivity. But, we do not believe that student selectivity is an appropriate area for federal or state regulatory control. Rather the policy choice of whether, or to what degree, magnets selectively admit students should be left to local

districts, within constitutional limits pertinent to equal treatment. Assistance should be provided upon district request.

Local District Options

1. Magnet schools that produce high quality education will involve extra costs for startup and small extra per pupil costs for operation.

Some districts have been so effective in allocating funds to magnets that they show virtually equal costs to non-magnets, and the publication of this fact is to their advantage in gaining public support. Extra costs for magnet schools should be supported by non-district tax revenues, either state or federal funds, private or foundation support, or funding-raiding.

2. Positive public relations for a district can be advanced with magnet schools and strong linkages with community businesses, institutions and organizations can be developed through magnet schools.

A major advantage of magnet themes with a specific area or career focus, e.g. science, health, business, computers, arts, etc., is that these themes are naturally attractive to interested organizations and professionals in the community. We also found that these types of magnet schools are more cost effective than broader theme magnets.

3. As a voluntary tool in desegregation, magnet schools can help a district increase districtwide school racial/ethnic composition or aid in desegregating specific areas or schools.

Magnets are also effective in reducing community conflict, or potential conflict, over desegregation and in holding students in a city's public schools. However, to have these positive effects, district leadership must be highly supportive and present an effective and vigorous method of implementation of desegregation.

4. In planning a magnet program or new magnet school, a survey of parent and community interests and broad participation in decision-making will reduce conflict over magnet plans and serve as an effective means of program publicity.

The planning process for the district magnet program can be used by central administrators and principals as a method of assessing the level of interest in magnets across neighborhoods, racial and ethnic communities, and parents socio-economic level. By opening the process to direct community input, program planners can identify theme interests and sources of community support and involvement. Many of the issues concerning program purpose, procedures and intended effects can be publicly debated prior to startup, which will anticipate some of the questions that are likely to be raised after the program is operating.

5. Magnet school themes may be effectively built on existing school, staff or community strengths. But magnets do not offer unique quality education when they are only an existing program or curriculum with a new name.

A concerted, coordinated planning and design effort involving district staff, principal, teachers, and community is generally required to develop a special and unique magnet theme and program design. Theme selection should consider strongly local factors of student interest, connections to community, staff specialties, and available leadership as well as the experience of other districts with various themes.

6. To be effective in offering quality education, magnet schools do not need to use highly selective methods of admitting students, such as previous school performance or achievement test scores. In fact, public support for magnet programs is more positive when application is mainly by interest and selection by lottery.

Voluntary enrollment by interest tends to self-select those students that are likely to do well in a magnet program with a special theme. If some entrance requirements are needed, they should be the minimum necessary to ensure that a student is interested in the theme and should not be used only as a means of excluding students.

Local planners should be aware, however, that student selectivity is a policy choice. It should be faced openly and publicly in the earliest planning stages, and the policy debate

should be inclusive of all groups. The district that fails to do this may subsequently discover that its magnets are perceived by many sectors of the community as elitist and inequitable, even when they are non-selective and widely inclusive, for many parents and educators alike regard magnets as characteristically more selective and exclusionary than our survey found them to be.

Misperceptions arising out of insufficiently realized or subrosa policy debates on the issue tend to induce resentment and conflict from community groups who feel shut out and regular school personnel who feel pushed aside and unjustly compared to what they perceive as exclusive and favored magnets. Over time, this can undermine the support accorded magnets, and undercut their identity and definiteness, which are associated with educational quality.

7. A large magnet program in a school district generally needs a central director or coordinator.

He/she can serve as a program advocate within the district administration to plan and manage new magnets, work with school principals and staff, and coordinate magnet marketing, publicity and recruiting. Often these responsibilities can be performed by a line administrator and this arrangement has the advantage of not removing magnets from the normal chain of command and decision-making.

8. <u>The magnet school can be used as a means of stimulating educational diversity and increasing opportunities for parent and student choice of type of education.</u>

Magnets should not be advertised or perceived as "alternative" schools, but rather as a means of selecting a type of education within the regular system. Elementary and secondary schools should be given the opportunity to develop a magnet school or program if they find advantages in this educational model.

This national study of magnet schools has produced the first set of research findings on the educational and desegregative effects of magnet schools based on data from a representative sample of the public school districts operating magnet programs. The study findings and conclusions have been used to outline several policy options for future development and improvement of magnet schools programs. We hope that the results of the study will be useful to decision-makers, educators and parents across the country as they plan and consider ways to improve the quality of education in the nation's public schools.